CONCOMITANT CHOLECYSTECTOMY DURING DUODENAL SWITCH: A PERIOPERATIVE RISK COMPARATIVE ANALYSIS OF MBSAQIP DATABASE (2015-2019)

Ben Clapp MD FACS FASMBS[1]; Michal Janik MD PhD[2]; John Corbett PhD[1]; Ahmet Vahibe MD[3]; Ray Portela MD[3]; Rana Pullat MD FACS FASMBS[4]; Omar M Ghanem MD FACS[3]

[1] Texas Tech University Health Sciences Center El Paso; [2] Military Institute of Aviation Medicine, Warsaw, Poland; [3] Mayo Clinic, Rochester; [4] MUSC Health University Medical Center

BACKGROUND

The results of concurrent cholecystectomy with Roux-en Y gastric bypass and sleeve gastrectomy have been well elucidated. Large-scale data on the outcomes of concomitant cholecystectomy during biliopancreatic diversion with duodenal switch (BPD-DS) is still lacking. Our study aimed to explore whether simultaneous cholecystectomy with BPD-DS alters the 30-day postoperative outcomes.

METHODS

We conducted a retrospective analysis of the MBSAQIP database between 2015-2019. Propensity-score matching (PSM) in BPD-DS with cholecystectomy (Group 1) and BPD-DS without cholecystectomy (Group 2) cohorts was performed (PSM ratio 1:2). The two groups were matched for a total of 24 baseline variables including age, gender, BMI, ASA class, and other medical comorbidities and conditions. The 30-day postoperative morbidity, mortality, reoperation, reintervention, and readmissions were obtained.

TABLE: Clavien-Dindo Complications And 30-day Outcomes For Pre- And Post-matched Duodenal Switch Without And With Laparoscopic Cholecystectomy Procedures

	ALL COHORT (PRE-MATCH)			MATCHED COHORT		
	Duodenal Switch	DS w/ Chole		Duodenal Switch	DS w/ Chole	
CLAVIEN-DINDO CLASS	5079	568	p-value	1128	564	p-value
GRADE 1						
SUPERFICIAL INCISIONAL SSI	24 (0.5%)	2 (0.4%)	1.0	7 (0.6%)	2 (0.4%)	0.726
GRADE 2						
UTI	24 (0.5%)	3 (0.5%)	0.749	8 (0.7%)	3 (0.5%)	0.761
PNEUMONIA	19 (0.4%)	1 (0.2%)	0.714	3 (0.3%)	1 (0.2%)	1.0
VENOUS THROMBOSIS	17 (0.3%)	0 (0%)	0.405	3 (0.3%)	0 (0%)	0.555
TRANSFUSION	32 (0.6%)	6 (1.1%)	0.270	3 (0.3%)	6 (1.1%)	0.068
GRADE 3						
DEEP INCISIONAL SSI	3 (0.1%)	0 (0%)	1.0	0 (0%)	0 (0%)	1.0
PULMONARY EMBOLISM	19 (0.4%)	1 (0.2%)	0.714	2 (0.2%)	0 (0%)	0.555
GRADE 4A						
ACUTE RENAL FAILURE	12 (0.2%)	1 (0.2%)	1.0	2 (0.2%)	1 (0.2%)	1.0
MYOCARDIAL INFARCT	3 (0.1%)	0 (0%)	1.0	1 (0.1%)	0 (0%)	1.0
PROGRESSIVE RENAL FAILURE	8 (0.2%)	1 (0.2%)	1.0	2 (0.2%)	1 (0.2%)	1.0
GRADE 4B						
VENTILATOR	11 (0.2%)	1 (0.2%)	1.0	1 (0.1%)	1 (0.2%)	1.0
ORGAN SPACE SSI	56 (1.1%)	10 (1.8%)	0.239	11 (1.0%)	9 (1.6%)	0.339
SEPSIS	21 (0.4%)	5 (0.9%)	0.177	4 (0.4%)	5 (0.9%)	0.17
SEPTIC SHOCK	16 (0.3%)	1 (0.2%)	1.0	0 (0%)	1 (0.2%)	0.333
UNPLANNED ICU ADMISSIONS	92 (1.8%)	7 (1.2%)	0.407	18 (1.6%)	6 (1.1%)	0.514
GRADE 5						
DEATH	15 (0.3%)	0 (0%)	0.390	1 (0.1%)	0 (0%)	1.0
30-DAY OUTCOME						
READMISSIONS	146 (2.9%)	33 (5.8%)	2.52E-4	67 (5.9%)	33 (5.9 %)	1.0
REOPERATION	308 (6.1%)	22 (3.9%)	0.044	28 (2.4%)	22 (3.9%)	0.127
REINTERVENTION	108 (2.1%)	18 (3.2%)	0.148	22 (2.0%)	18 (3.2%)	0.127
OPERATIVE LENGTH (MIN.)	127.0 ± 68.0	198.5 ± 83.8	2.20E-16	126.4 ± 61.4	192.4 ± 77.6	0.000

RESULTS

Initially, 568 patients in Group 1 and 5079 in Group 2 were identified. After performing PSM, 564 and 1128 patients respectively were compared. The BPD-DS with cholecystectomy group reported a higher rate of reoperation and reintervention than BPD-DS alone (3.9% versus 2.4% and 3.2% versus 2%, respectively), even though it didn't reach statistical significance. The intervention time was significantly higher in Group 1 compared to Group 2 (192.4 ± 77.6 versus 126.4 ± 61.4 minutes). Clavien-Dindo complications (1-5) were similar between these two PSM cohorts.

CONCLUSIONS

Concomitant cholecystectomy during BPD-DS increases operative times but does not affect the other outcomes. Based on our results, the decision of cholecystectomy at the time of BPD-DS should be left to the surgeon's judgment.

© 2020 Mayo Foundation for Medical Education and Research